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Modular Packaging Technique for Combining Integrated Circuits and Discrete Components

A technique has been developed to accommodate any combination of cordwood modules, discrete components, and flat-pack integrated circuits in a modular package. This technique, although developed primarily for use in flight hardware, where size and weight must be minimized, would also be useful in many nonspace situations.

The basic structure of the package is a long tray (or "stick") molded from diallylphthalate with 18 beryllium-copper terminals molded into each side and a mounting stud molded into each end. Components are interconnected by means of a number of etched beryllium-copper strips placed in the tray under the components and separated by strips of polyester tape. This design allows components to be changed easily and circuit-path modifications to be made by merely replacing one or more of the interconnection strips. The average weight of a package containing fifteen 10-lead flat packs or twelve 14-lead flat packs is 30 grams. The dimensions of the package, including terminals, are: length, 5 inches;

width, 0.7 inch; height, 0.6 inch. Simple girder-like construction provides both ease of assembly and high rigidity. These packages also have excellent vibration resistance and good heat dissipation characteristics.

Note:

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No patent action is contemplated by NASA.

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